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| 09/616,655 | 07/14/2000 | Pedro Eugenio Cosma | RCA 89,477 | 6489 |

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EXAMINER

COLON, GERMAN

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 06/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

DL

Office Action Summary

Application No.

09/616,655

Applicant(s)

COSMA ET AL.

Examiner

German Colón

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 02, 2003 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of "the sides having the first portion *deform* when heated such that ends of the sides not having the first portion *approach each other* to reduce the tension in the mask" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 1-6 and 8-10 are objected to because of the following informalities:

Regarding claim 1, claim 1, line 3, recites the limitation "under tension a tension direction"; said limitation is missing a linking word.

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Referring to claims 2-6 and 8-10, claims 2-6 and 8-10 are objected for the reasons given in claim 1 because of their dependency status from claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 13-14, refers to "said metal piece and said support means having...". The Examiner notes that said 'support means' comprise the 'metal piece' (see lines 9-13), therefore, said metal piece is already claimed by the limitation of the 'support means'. Thus, claim 1 is rendered indefinite by a double inclusion of the same element.

Regarding claims 2-6 and 8-10, claims 2-6 and 8-10 are rejected over the reasons stated in claim 1 because of their dependency status from claim 1.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1, 3, 5, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Palac (US 4,164,682).

Regarding claim 1, Palac discloses a CRT **2** having a glass faceplate on which is deposited a screen of luminescent materials (see Fig. 1), a color-selection mask **126** arranged close to the screen, a frame **124** to which the mask is fixed and which holds it under tension, said frame being of a substantially rectangular shape (see Fig. 9) defined by a pair of opposed long sides and a pair of likewise opposed short sides, at least two sides each include an edge in the form of a metal part (see Fig. 10) substantially parallel to the surface of the mask, the mask/frame assembly being held within the faceplate by support means engaging pins **140** fixed to the faceplate, the support means comprising:

a metal piece **128** including a first portion **130** secured by welding **139** to the metal part, said first portion attached opposite a surface of the mask and extending in a direction parallel to a tension direction of the mask, and a second portion **138** extending in a direction substantially perpendicular to the first portion for securing the frame to the glass plate, said support means having a coefficient of thermal expansion that cause the sides having the first portion to deform when heated such that ends of the sides not having the first portion approach each other to reduce the tension in the mask during heating (see Col. 9, lines 39-45).

The Examiner notes that portion **130**, comprising portions **132** and **142**, is welded to the mask frame, said portion **130** and the frame's edge in the form of a metal part lay on a geometrical plane parallel to the plane of the shadow mask; the portion **130** has a coefficient of thermal expansion such that upon heating of the mask, it *bends out* of its plane, thus, deforming the sides comprising said portion **130**. This "bending out" (see Col. 9, line 43) is different from

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a "shifting" motion, as that disclosed by Miller (US 3,873,875), in which there is no deformation of the sides containing the support means.

Regarding claim 3, Palac is silent regarding the limitation of "the mask being held under tension between the long sides of the frame". However, it is considered to be inherent of the mask to have an applied tension along the sides of the frame. It is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). Thus, the functional limitation of "the mask being held under tension between the long sides of the frame" is taught by Palac under the principles of functional inherency.

Referring to claim 5, Palac discloses the coefficient of thermal expansion of the materials constituting the frame and the support means being different (see Col. 8, lines 57-63).

Referring to claim 8, Palac discloses four support means each incorporating a metal piece (see Col. 8, lines 15-17).

Referring to claim 10, Palac discloses the frame being made of one-piece construction such that the entire frame expands and contracts as one unit during heating (see Col. 8, lines 13-14, and Figs. 9 and 10).

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Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palac (US 4,164,682).

Palac discloses the claimed invention except for the limitation of "the coefficient of thermal expansion (CTE) of the metal piece is higher than that of the edges of the frame". Palac discloses an embodiment where a thermal compensation is obtained having a CTE for the edges higher than that of the metal piece.

However, Palac teaches that the desired amount of thermal "Q" compensation can be provided by selecting the appropriate physical parameter of the metal piece, by the number of welds, and by appropriate selection of the metal piece materials (see Col. 8, lines 63-68). Further, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have a CTE of the metal piece higher than that of the edge of the frame, since the selection of known materials for a known purpose is within the skill of the art. Further, Palac teaches that the desired amount of thermal "Q" compensation can be provided by selecting the appropriate physical parameter of the metal piece, by the number of welds, and by appropriate selection of the metal piece materials.

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10. Claims 2 and 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Palac (US 4,164,682) in view of Miller (US 3,873,875).

Regarding claim 2, Palac discloses a CRT comprising three support means wherein the first portions are located around the mask assembly. Palac is silent regarding the limitation of "the first portion being arranged at an end of the frame".

However, in the same field of endeavor, Miller discloses a CRT having three support means, and teaches to arrange the first portion at an end of the frame with the purpose of reducing the active length of the first portion and compensating for the fact that the side mounted elements are not on the horizontal axis, improving the alignment of the mask (see Fig. 3 and Col. 3, lines 49-61). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arranged the first portion at an end of the frame since Miller teaches that such an arrangement reduces the active length of the first portion and compensates for the fact that the side mounted elements are not on the horizontal axis, improving the alignment of the mask.

Referring to claim 4, Palac-Miller discloses the short sides of the frame including an edge in the form of a metal part substantially parallel to the surface of the mask.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palac (US 4,164,682) in view of Sakata et al. (US 5,214,349).

Palac discloses a mask/frame assembly being supported by four supporting means but is silent regarding the limitation of "two opposing sides of the frame each having two supporting

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means attached thereto, the first portion of the supporting means covering about forty percent of each of the sides of the frame”.

However, in the same field of endeavor, Sakata discloses a mask assembly comprising four support means and teaches the equivalence of placing the support pins at the corners, arranging them toward the inner part of the panel in the vicinity of the corner portion, or providing opposed sides with two support pins, as shown in Figs. 27 to 29 (see also Col. 9, lines 56-64). On Figure 29 the support pins are placed in the short sides of the faceplate. Thus, it would have been obvious to anyone of ordinary skill in the art at the time the invention was made to use Sakata's teaching to modify the frame/shadow assembly of Palac since Sakata teaches that is equivalent to place the support pins at the corners, arranging them toward the inner part of the panel in the vicinity of the corner portion, or providing opposed sides with two support pins.

Palac-Sakata discloses two opposing sides of the frame each having two supporting means, but is silent regarding the limitation of “the first portion covering about forty percent of each of the sides”. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges for a change in size or length involves only routine skill in the art. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “the first portion covering about forty percent of each of the sides”, since it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value.

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Response to Arguments

12. Applicant's arguments with respect to claims 1-6 and 8-10 have been considered but are moot in view of the new ground(s) of rejection.

Prior Art or Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ha et al., in US 2001/0040425, discloses a shadow mask and a frame comprising supporting means having a first portion parallel to the shadow mask and a second portion substantially perpendicular to the first portion.

Rath, in US 4,847,532, discloses a tensed mask and a frame comprising supporting means having a first portion parallel to the shadow mask and a second portion substantially perpendicular to the first portion (see Fig. 7).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


gc

June 17, 2003


VIP PATEL
PRIMARY EXAMINER